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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,922	11/04/2003	Hyun-Sang Park	8974-000064/US	3878

30593 7590 10/02/2007

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EXAMINER	
KRASNIC, BERNARD	
ART UNIT	**PAPER NUMBER**
2624	

MAIL DATE	DELIVERY MODE
10/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/699,922	PARK, HYUN-SANG	
	Examiner	Art Unit	
	Bernard Krasnic	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) *22-31,37-42 and 44-47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21,32-36, 43 and 48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 November 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/05/2005*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *20070907*.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species I [Claims 1-21, 32-36, 43, and 48] in the reply filed on 7/23/2007 is acknowledged. The traversal is on the ground(s) that the Examiner would not be unduly burdened if forced to examine Species II, III, IV and V. This is not found persuasive because each different specific implementation of generating the common read/write address is structurally different in design and operates by different modes, which would pose a great burden onto the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art -- instead of "Related Art" because only that which is old is illustrated. See MPEP § 608.02(g).

Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because of minor informalities. "single line memory, A block unit" in line 3 of the abstract should be -- single line memory. A block unit --. In other words, the comma "," should be a period ".".

Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:

Page 1, line 4: The -- CROSS REFERENCE TO RELATED APPLICATIONS -- section of the specification is required to be placed above the "BACKGROUND OF THE INVENTION" section to inform of any related applications, in this case the Foreign application KOREA 2002-68871 11/07/2002.

Appropriate correction is required.

Claim Objections

5. Claims 17 and 32 are objected to because of the following informalities:

Claim 17, line 1: "comprises an number" should be -- comprises a number --.

Claim 32, line 1: "An method" should be -- A method --.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. Claims 1 and 32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1 and 32 are drawn to a computer implemented process that merely manipulates data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application in the technological arts.

In order for a claimed invention to accomplish a practical application, it must produce a "useful, concrete and tangible result" *State Street,* 149 F.3d at 1373, 47 USPQ2d at 1601-02 (see MPEP 2106.II.A). A practical application can be achieved through recitation of "a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan", or "limited to a practical application within the technological arts" (MPEP 2106 IVB2(b)). Currently, claims 1 and 32 meet neither of these criteria. In order to for the claimed process to produce a "useful, concrete and tangible" result, recitation of one or more of the following elements is suggested:

1 The manipulation of data that represents a physical object or activity transformed from outside the computer (MPEP 2106 IVB2(b)(i)).

2 A recitation of a physical transformations outside the computer, for example in the form of pre or post computer processing activity (MPEP 2106 IVB2(b)(i)).

A direct recitation of a practical application in the technological arts (MPEP 2106 IVB2(b)(ii)).

In order to overcome this 35 U.S.C. 101 issue, the Applicant is suggested to incorporate the preamble limitation "converting image data between a raster scan order and a block scan order" into the body of the claim so that this limitation would positively recite a useful, concrete, and tangible result in the body of the claim. Also, the encoder should actually encode instead of just receiving image data of the block scan order.

Claims 2-18 are dependent upon claim 1. Claims 19-21, 33-36, 43, and 48 are dependent upon claim 32.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 20-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re Claims 20 and 21, line 2 respectively: The limitation "to substantially equal" renders this claim indefinite and unclear because it is just a relative term. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-18, 32-35, and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Rengakuji (US 6,212,300 B1).

Re Claim 1: Rengakuji discloses an image processing apparatus for converting image data between a raster scan order and a block scan order (see col. 4, lines 41-45, abstract, the raster format is converted to a block format), comprising an image data processor (103-105) for supplying image data of a raster scan order having a given horizontal resolution and a given vertical resolution (see Fig. 5, col. 4, lines 34-61, any image has a HxV resolution, Figs. 6A-6B); a line memory (106) for storing image data of a plurality of lines / v=8 lines (see Fig. 5, col. 4,lines 41-45, v=8 lines); an address generating block (111-120, address generator) for generating a common read/write address for the line memory so that only one line memory is required for read and write operations (see Fig. 5, col. 5, lines 5-28 and 41-48, the address to the free space created by reading out one MCU is a common read/write); and an encoder (107-109) receiving image data of the block scan order from the line memory (see Fig. 5).

Re Claim 2: Rengakuji further discloses wherein the address generating block (111-120, address generator) includes: a block address generator for generating an address of a

block / segment which image data is read from and written into / read/write (see Fig. 14, col. 5, lines 63-66); a line offset generator for providing a line offset / first 8 lines 8H between an earlier common read/write address and a present common read/write address for the line memory (see col. 4, lines 41-45, col. 5, lines 52-67, col. 6, lines 1-2); and an address generator for generating the common read/write address for the line memory based on the block address / segments and the line offset / first 8 lines 8H (see Fig. 15A, see col. 4, lines 41-45, col. 5, lines 52-67, col. 6, lines 1-8, the figure shows the address generator creating the cell addresses (0) to (95) which are based on the 96 needed segments for the first 8 lines or as the applicant states a "phase").

Re Claim 3: Rengakuji further discloses the encoder (107-109) is a Joint Photographic Experts Group (JPEG) engine / JPEG compression (see Fig. 5, col. 1, lines 15-17, a typical DCT compressor is JPEG).

Re Claim 4: Rengakuji further discloses wherein the block includes image data of horizontal-direction pixels and vertical-direction pixels (see Fig. 1, the figures shows that each block has vertical and horizontal pixels).

Re Claim 5: Rengakuji further discloses wherein the block address generator provides a block offset between a start address of a present block and a start address of a next block for the line memory (see Figs. 15A and 15B, the block offset in these figures is 1 because the address of each adjacent block is 1 apart).

Re Claim 6: Rengakuji further discloses the block offset is initially set to 1 (see Figs. 15A and 15B, the block offset in these figures is 1 because the address of each adjacent block is 1 apart).

Re Claim 13: Rengakuji further discloses wherein the block address generator increases the block address as much as the block offset after the block address generator generates the common read/write addresses for a block (see Figs. 15A and 15B, the block offset in these figures is 1 because the address of each adjacent block is 1 apart).

Re Claim 15: Rengakuji further discloses wherein the block offset is set to the line offset at an end of every phase (the block offset in Fig. 15B is initially 1 because the address of each adjacent block is 1 apart but then changes to 8 [8 represents the line offset, 8 lines] as seen in Fig. 15C where the address of each adjacent block is 8 apart, looking at Figures 15B-15E [four of the applicants phases] and looking at Figs. 7B-7E of the Applicants Drawings it is seen that this block offset is correspondent between the two).

Re Claim 18: Rengakuji further discloses wherein image data having the given horizontal resolution (H) and the vertical resolution (V) comprises V/v phases, wherein v represents a number of vertical-direction pixels in a given block (see Fig. 1 and Figs. 15B-15E, there are four phases for the given horizontal and vertical resolution of the

image wherein each table is representing a phase similarly to Figs. 7B-7E of the Applicants Drawings).

Re Claim 7: Rengakuji further discloses the line offset is initially set to a value defined by the given horizontal resolution divided by a number of horizontal-direction pixels in a given block (see col. 5, lines 63-68, col. 6, lines 2-8).

Re Claim 8: Rengakuji further discloses the line offset generator generates a next line offset / following 8 lines 8H between a present common read/write address and a next common read/write address for the line memory (see col. 4, lines 41-45, col. 5, lines 52-67, col. 6, lines 1-2, Figs. 15B-15E, a constant 8 line offset is followed going through the different four phases).

Re Claim 9: Rengakuji further discloses the block address and the next line offset are respectively reset at a start of every phase (see Figs. 15B-15E, it is seen that the block address is reset to 0 in the top left portion of each of the four phase tables and it is seen that the following / next line offset is reset to the 8 lines for the following phases).

Re Claim 16: Rengakuji further discloses the line offset is set to the next line offset at an end of every phase (see Figs. 15B-15E, the following / next line offset is reset to the 8 lines for the following phases).

Re Claim 17: Rengakuji further discloses a phase comprises an number of blocks equal to the given horizontal resolution divided by a number of horizontal-direction pixels in a given block (see Figs. 1 and 15B, col. 5, lines 52-67, col. 6, lines 1-8, it is seen that phase 1 in Fig. 15B has 96 segments or blocks which is relatively the same to the Applicants disclosure in paragraph [0050] of 80 segments or blocks).

Re Claim 10: Rengakuji further discloses the address generator generates an anchor address for the line memory based on the block address, and generates a sequential number of the common read/write address from the generated anchor address (see Figs. 14 and 15A, the anchor addresses are calculated, Figs. 15B-15E, col. 5, lines 63-67, col. 6, lines 1-30).

Re Claim 11: Rengakuji further discloses the address generator increases the anchor address to equal the line offset after the address generator generates the sequential number of the common read/write address (see Figs. 15A-15E, it is seen that the anchor address is increased from left to right and as the phase goes by it equals the line offset of 8).

Re Claim 12: Rengakuji further discloses the address generator decreases the anchor address to the given horizontal resolution minus one (H-1) when the anchor address has increased so as to equal or exceed (H-1) (see Figs. 14 and 15A, 7H/8+[H/8-1]=>H-1).

Re Claim 14: Rengakuji further discloses the block address generator decreases the block address to the given horizontal resolution minus one (H-1) when the block address has increased so as to equal or exceed (H-1) (see Figs. 14 and 15B-15E, 7H/8+[H/8-1]=>H-1).

Re Claim 32: Rengakuji discloses a method for converting image data between a raster scan order and a block scan order (see col. 4, lines 41-45, abstract, the raster format is converted to a block format), comprising receiving (106) image data of a raster scan order having a given horizontal resolution and a given vertical resolution (see Fig. 5, col. 4, lines 34-61, any image has a HxV resolution, Figs. 6A-6B, the line buffer 106 receives the raster format generated by 103-105); generating (111-120, address generator) a common read/write address for a line memory (106) of a plurality of lines / v=8 lines (see Fig. 5, col. 5, lines 5-28 and 41-48, the address to the free space created by reading out one MCU is a common read/write); reading image data of a block scan order / reads out block format from the common read/write address of the line memory (see col. 4, lines 41-45); storing image data of the raster scan order / image data of 8 lines stored in the common read/write address of the line memory (see col. 4, lines 41-45); and transmitting image data of the block scan order / block form to an encoder (107-109) (see Fig. 5, col. 4, lines 46-49).

As to claim 48, the claim is the corresponding apparatus claim to claim 32 respectively. The discussions are addressed with regard to claim 32.

Re Claim 33: Rengakuji further discloses generating the common read/write address is based in part on generating an anchor address, the anchor address representing a segment of pixels of image data that is read from and written to the line memory (see Figs. 14 and 15A, the anchor addresses are calculated, Figs. 15B-15E, col. 5, lines 63-67, col. 6, lines 1-30).

Re Claim 34: Rengakuji further discloses the anchor address is generated based on at least one of a block address of a block, of the block scan order, in which image data is read from and written to in the line memory, and a block offset between a start address of a present block and a start address of a next block for the line memory (see Figs. 14 and 15A, the anchor addresses are calculated with regards to the block address, Figs. 15B-15E, col. 5, lines 63-67, col. 6, lines 1-30).

Re Claim 35: Rengakuji further discloses the anchor address is set based only on the block address (see Figs. 14 and 15A, the anchor addresses are calculated with regards to the block address, Figs. 15B-15E, col. 5, lines 63-67, col. 6, lines 1-30.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Devaney et al discloses a post-filter for removing ringing artifacts of dct coding; Yanaka discloses an image forming apparatus; Kim discloses a memory addressing apparatus for block scan and raster scan and a memory addressing method

using the same; Mita discloses a scan converting method and apparatus for raster to block using a shared block buffer; Park discloses an image processing apparatus and method for conversion between image data of raster scan order and image data of block scan order; Park et al discloses an image processing apparatus and method.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bernard Krasnic
September 7, 2007

SAMIR AHMED
PRIMARY EXAMINER